

## WHAT IS CLAIMED IS:

1. A method for developing web applications and executing the developed web applications on a computer network, the method comprising the steps of:

visually generating both decision logic for a web application and a visual layout for the web application on a development computer using a plurality of visual components, the plurality of visual components comprising:

at least one visual component to accomplish a particular function in a web application;

at least one visual component to arrange the visual layout of a web application; and

at least one visual component to link together other visual components of the plurality of visual components;

transferring the plurality of visual components of the web application to at least one server accessible by users on a computer network; and

executing sequentially the plurality of visual components of the web application in response to a request of a user on the computer network for the web application.

2. The method of claim 1 wherein said step of visually generating both decision logic for a web application and a visual layout for the web application comprises the steps of:

opening a visual workspace on the development computer;

selecting a visual component from one of the at least one visual component to accomplish a particular function and the at least one visual component to arrange the visual layout;

inserting the selected visual component into the visual workspace;

configuring operation of the inserted visual component to correspond to a desired operation in the web application;

connecting the inserted visual component to at least one other visual component in the visual workspace with the at least one visual component to link together other visual components; and

repeating the steps of selecting, inserting, configuring and connecting until the web application is generated.

3. The method of claim 2 wherein said step of visually generating both decision logic for a web application and a visual layout for the web application comprises the further steps of:

creating at least one system variable to store information and communicate the stored information between visual components; and

using the created at least one system variable with at least one corresponding visual component of the plurality of visual components.

4. The method of claim 1 wherein said step of executing sequentially the plurality of visual components comprises the steps of:

retrieving, in sequence, each visual component of the plurality of visual components;

interpreting, in sequence, with a corresponding interpreter on the at least one server, each retrieved visual component; and

evaluating, in sequence, on the at least one server, each interpreted visual component.

5. The method of claim 4 wherein the at least one server comprises an application server storing the transferred web application and at least one web server and said step of executing sequentially the plurality of visual components comprises the further steps of:

receiving at the at least one web server the request from the user on the computer network for the web application;

transferring the request from the at least one web server to the application server storing the web application;

retrieving, interpreting and evaluating on the application server each visual component of the web application;

5                   transferring output for the user generated from the evaluation of the plurality of visual components of the web application to the at least one web server; and

communicating the output for the user over the computer network to the user with the at least one web server.

10               6. The method of claim 1 wherein said step of transferring the plurality of visual components of the web application to at least one server further comprises the steps of:

15                   retrieving all files associated with the web application and the plurality of visual components created during generation of the web application;

combining the retrieved files associated with the web application and the plurality of visual components into a single file;

selecting a server from the at least one server to receive the combined file;

20                   verifying authority to transfer the combined file to the selected server; and

deploying the combined file to the selected server.

25               7. The method of claim 1 further comprising the step of testing the web application and the plurality of visual components for errors before said step of transferring the plurality of visual components of the web application to at least one server.

8. A system to develop web applications and to execute the developed web applications on a computer network, the system comprising:

at least one development computer, said at least one development computer being used by an author to generate a web application and said at least one development computer further comprising an authoring tool;

5 at least one storage device to store said web application generated by said author;

said authoring tool further comprising means for visually generating both decision logic and a visual layout of said web application using a plurality of visual components and said authoring tool including means for transferring said plurality of visual components of said web application from said at least one development computer to said at least one storage device; and

10 at least one server communicating with said authoring tool, said at least one server comprising means for providing access to said web application stored in said at least one storage device to users on a computer network and said at least one server comprising means for directly executing said plurality of visual components of said web application in response to a request from a user on said computer network for access to said web application.

20 9. The system of claim 8 wherein said means for directly executing said plurality of visual components comprises an interpreter to interpret and execute each visual component of said plurality of visual components of said web application.

10. The system of claim 8 wherein:

25 said means for directly executing said plurality of visual components of said web application further comprises means for initializing and executing an instance of said web application for each user on said computer network requesting access to said web application; and

said at least one server comprises means for maintaining and monitoring a state of each instance of said web application initialized and executed for a user on said computer network.

11. The system of claim 8 wherein:

5           said plurality of visual components comprises a plurality of nodes;

          each node of said plurality of nodes accomplishing a particular function in a web application; and

10           said means for visually generating both decision logic and a visual layout of said web application comprises means for interconnecting nodes of said plurality of nodes in a visual workspace to generate said decision logic of said web application.

12. The system of claim 11 wherein said means for visually generating both decision logic and a visual layout of said web application further comprises for each node of said plurality of nodes a corresponding means for customizing said particular function accomplished by said node to said web application.

13. The system of claim 12 wherein:

20           said plurality of nodes comprises a first node to accomplish receiving inputs from a user and a second node to accomplish displaying outputs to a user;

          said means for customizing said first node comprises means for generating a visual layout to receive inputs from a user; and

25           said means for customizing said second node comprises means for generating a visual layout to display outputs to a user.

14. The system of claim 8 wherein:

said at least one server comprises at least one application server and at least one web server communicating with said at least one application server;

said at least one application server comprises said means for directly executing said plurality of visual components in said at least one storage device; and

said at least one web server comprises said means for providing access to said web application.

15. The system of claim 8 wherein:

said computer network comprises one of Intranet, Extranet and Internet;

said means for providing access to said web application comprises a HTTP server;

said means for visually generating both decision logic and a visual layout of said web application comprises means for storing information relating to said web application in a plurality of files;

said means for transferring said plurality of visual components of said web application comprises means for combining said information relating to said web application in said plurality of files into a single file; and

said means for transferring said plurality of visual components of said web application comprises means for selecting said at least one server.

16. A computer program product embodied on a computer readable medium and executable by a computer for developing web applications and executing the developed web applications on a computer network, the computer program product comprising computer instructions for executing the steps of:

visually generating both decision logic for a web application and a visual layout for the web application on a development computer using a plurality of visual components, the plurality of visual components comprising:

5                   at least one visual component to accomplish a particular function in a web application;

                  at least one visual component to arrange the visual layout of a web application; and

10                  at least one visual component to link together other visual components of the plurality of visual components;

                  transferring the plurality of visual components of the web application to at least one server accessible by users on a computer network; and

15                  executing sequentially the plurality of visual components of the web application in response to a request of a user on the computer network for the web application.

17. The computer program product of claim 16 wherein said step of visually generating both decision logic for a web application and a visual layout for the web application comprises the steps of:

20                  opening a visual workspace on the development computer;

                  selecting a visual component from one of the at least one visual component to accomplish a particular function and the at least one visual component to arrange the visual layout;

25                  inserting the selected visual component into the visual workspace;

                  configuring operation of the inserted visual component to correspond to a desired operation in the web application;

30                  connecting the inserted visual component to at least one other visual component in the visual workspace with the at least one visual component to link together other visual components; and

repeating the steps of selecting, inserting, configuring and connecting until the web application is generated.

18. The computer program product of claim 16 wherein the at least one server comprises an application server storing the transferred web application and at least one web server and said step of executing sequentially the plurality of visual components comprises the steps of:

receiving at the at least one web server the request from the user on the computer network for the web application;

transferring the request from the at least one web server to the application server storing the web application;

retrieving, in sequence, each visual component of the plurality of visual components of the web application on the application server;

interpreting, in sequence, with a corresponding interpreter on the application server, each retrieved visual component;

evaluating, in sequence, on the application server, each interpreted visual component;

transferring output for the user generated from the evaluation of the plurality of visual components of the web application to the at least one web server; and

communicating, by the at least one web server, the output for the user over the computer network to the user.

19. The computer program product of claim 16 wherein said step of transferring the plurality of visual components of the web application to at least one server comprises the steps of:

retrieving all files associated with the web application and the plurality of visual components created during generation of the web application;

combining the retrieved files associated with the web application and the plurality of visual components into a single file;



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20. The computer program product of claim 16 further comprising computer instructions for executing the step of testing the web application and the plurality of visual components for errors before said step of transferring the plurality of visual components of the web application to at least one server.